

REMARKS

Claim 12 has been amended to include the limitations of claim 14 (except the antibacterial effect) and claim 17 has been canceled.

Claim 18 has been rewritten in independent form to include the relevant limitations of claim 12. This claim is now in condition for allowance.

Claims 22 and 23 have been amended to require additional ingredients.

Claims 12-17 and 19-23 stand rejected as being anticipated or obvious over Liebeskind et al. This rejection is respectfully traversed.

The present invention relates generally to aqueous cosmetic compositions, in particular for treating the hair, comprising unpolymerized or relatively unpolymerized, water-soluble organosilicon compounds containing two nonhydrolyzable functions, at least one of which has a cosmetic effect, and two hydrolyzable functions per molecule.

The present invention makes it possible to formulate effective, rinse-fast cosmetic compositions by incorporating into these compositions unpolymerized or relatively unpolymerized organosilicon compounds which are organosilanes comprising one silicon atom or organosiloxanes comprising two or three silicon atoms, the organosilicon compounds also comprising per molecule at least two hydroxyl groups or two hydrolyzable functional groups and at least two nonhydrolyzable functional groups, at least one of these nonhydrolyzable functional groups being a functional group having a cosmetic effect, and at least one other of these nonhydrolyzable functional groups being a solubilizing functional group.

The organosilicon compounds according to the invention are capable of forming, in aqueous medium, a nonhybrid compound after self-condensation and evaporation of the support. The expression "nonhybrid compound" means a compound that is chemically homogeneous as regards silicon, i. e., it contains no other additional metallic or organometallic species.

The compositions according to the invention generally make it possible to obtain shampoo-fast conditioning effects on the hair. In addition, the presence of the nonhydrolyzable functional group, having a cosmetic effect, makes it possible to obtain other cosmetically advantageous remnant effects.

In the present invention, the expression "nonhydrolyzable functional group having a cosmetic effect" means any functional chemical group that, after applying the composition to the

hair, gives the hair a specific remnant cosmetic effect. Among the specific cosmetic effects are coloring, UV-stabilizing, antifungal and reducing effects.

Liebeskind et al is directed to water-stable organosilane compounds which are obtained by reacting an organosilane of formula:



wherein: $n = 0-3$,

R is a non-hydrolyzable group, and

X is a hydrolyzable group,

with a stabilizer which is a polyol containing at least three hydroxy groups, wherein any two of the three hydroxy groups are separated by at least three intervening atoms (col. 12, lines 58-67). More preferably, the stabilizer has the formula $[R_{11}(W)_p](R_{33})_{3-o}C[(CH_2)_qOH]_o$ (I) (see col. 13, lines 12-60).

Liebeskind et al also relates to:

particular organosilanes R_nSiX_{4-n} of formulae II, III, IV and V (col. 13, line 61 - col. 14, line 62) and particular polyols (col. 14, line 62 - col. 16, line 38),

water-stable organosilane compounds of formula VIII, IX, X, XI and XIII (col. 16, line 39 - col. 19, line 38),

particularly preferred organosilane compounds and polyols (col. 19, line 45 - col. 21, line 27),

a method for dyeing and treating a substrate with an aqueous composition comprising a water-soluble dye and a product formed by the above-mentioned reaction, and

various antimicrobial treatment using products formed by the above-mentioned reaction.

Novelty

The Examiner refers in particular to the compounds of formula (VIII):



wherein:

$m = 1-3$;

$R_{22} = H$ or OR_{33} where $R_{33} = -[CH_2C(CH_2OH)_2CH_2O]_f-H$, $f=0-5$.

This organosilane therefore comprises:

0 to 2 hydroxy groups,

1 to 3 groups $\{[R_{22}(CH_2)_i]_2CR_{23}R_{24}\}$ which are non-hydrolyzable groups; the carbon atom to which are bonded R_{23} , R_{24} , and two groups $[R_{22}(CH_2)_i]$ having 5 bonds, which is not possible for one skilled in chemistry. As a matter of fact, a carbon atom has only 4 bonds. The same remark applies to compounds of formulae (IX), (X) and (XI);

with the proviso that there are three hydroxy and $\{[R_{22}(CH_2)_i]_2CR_{23}R_{24}\}$ groups, and

a group comprising an ammonium group $-R_{25}N^+R_{26}R_{27}R_{28}$ which is a non-hydrolyzable group and can be considered as a group having a cosmetic effect and as a solubilizing group since a quaternary ammonium group also aids in the solubilization of the organosilane compound.

Besides, examples of Liebeskind et al describe 3-(trimethoxysilyl)propyl dimethyloctadecylammonium chloride modified with pentaerythritol (Formulae A and B, in cols. 37 and 38). These exemplified organosilane compounds comprise:

0 to 2 hydroxy groups,

1 to 3 pentaerythritol groups which are nonhydrolyzable groups with a solubilizing function, and

1 quaternary ammonium group linked to the silicon atom via a propyl group, which is a nonhydrolyzable group.

Therefore, the organosilane compounds of formula (VIII) do not have any group having a cosmetic effect chosen from coloring, UV-stabilizing, antifungal and reducing effects. This document does not disclose any organosilicon compound with one silicon atom as defined in claim 12, nor siloxane having two or three silicon atoms as defined in claim 12. Consequently, new claim 12 is novel over Liebeskind et al.

Nonobviousness

The invention as claimed is also nonobvious over Liebeskind et al. As a matter of fact, there is neither an indication nor suggestion in this document leading one of ordinary skill in the art to the composition as claimed in order to obtain stable cosmetic compositions and a highly

remanent cosmetic effect chosen from coloring UV-stabilizing, antifungal and reducing effects. These effects are in particular resistant to shampoo.

Liebeskind et al only disclose water-stable organosilane compounds which can be used in dyeing compositions comprising a water-soluble dye, and in antimicrobial treatment. Liebeskind et al do not teach groups having a cosmetic effect as defined in claim 12, directly bonded to a silicon atom. This document neither indicates nor suggests that the particular organosilane as defined in claim 12 results in a highly remanent cosmetic effect chosen from coloring, UV-stabilizing, antifungal and reducing effects, when applied on keratin materials, while being stable in aqueous compositions upon storage. Consequently, the invention as claimed would not have been obvious to one of ordinary skill in the art at the time the invention was made.

In view of the foregoing, early and favorable action is respectfully requested.

A Petition For Extension Of Time is being filed concurrently herewith.

The Commissioner is hereby authorized to charge any fees due in connection with the present Amendment to Deposit Account 19-4293.

Respectfully submitted,



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